Remarks and Arguments

Claims 1-7 are pending in this application. No claims have been cancelled, amended, or added.

Claims 1- 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,945,460 ("Ekart") in view of U.S. Patent No. 6,929,836 ("Kikuchi"). The Examiner states that Ekart teaches preparing a polyester from monomers and "feeding the polymer directly to a molding or shaping machine without solidifying the polyester." The Examiner admits that Ekart does not specifically teach the use of a compression molding machine and turns to Kikuchi for teaching the process of continuously supplying resins from an extruder into a compression molding device. Applicants respectfully traverse this rejection as follows.

Ekart describes preparing polyester polymers from monomers in a melt phase and subsequently feeding this polymer directly to a molding machine without solidifying the polyester prior to entry into the molding machine. (*Ekart*. at col. 2, ll. 48-51.) This molding step produces scrap polyester, which can be recycled back to the polymerization unit. (*Id*. at col. 2, ll. 51-53.) Indeed, the prime feature of Ekart is the method of recycling scrap polyester back to the polymer melt stream:

> It has been unexpectedly found that it is now possible to provide a process whereby shaped articles may be prepared in a continuous process starting from polyester precursors, wherein recycled scrap polyester from the molding step is added during the polyester formation or molding steps. As a result, a process is attained which achieves high yields, approaching 100%, with its associated reduced cost of production and less waste for disposal. No drying of preforms is necessary prior to recycling the scrap, which is ordinarily required in order to prevent hydrolytic degradation. Any hydrolytic degradation that occurs in feeding the polymer to the polymerization process has little effect since the polymer undergoes further polycondensation. The scrap need not spend significantly more time in the molten state at high molecular weight. This reduces polymer degradation, which improves color and reduces acetaldehyde formation. It is also not necessary to transport the scrap to a separate polyester manufacturing processes.

(*Id*. at col. 1, l. 65 to col. 2, l. 15.)

Ekart teaches more specifically that the molten polyester is "flowed into at least one molding apparatus ... without solidifying the polyester." (*Id.* col. 6, ll. 24-30; emphasis added.) Ekart describes specific conditions for pumping the formed polymer to the molding machine, such as a mean residence time of approximately 7 minutes to ensure that the polymer is transferred to the molding machine before it cools to a temperature of below 200°C. (*Id.* at col. 7, ll. 50-55.) Ekart lists suitable molding processes: injection molding, gas-assist injection molding, blow molding, extrusion thermoforming and fails to describe the use of compression molding. (*Id.* at col. 6, ll. 45-49.)

Kikuchi teaches that preforms are typically formed by injection molding. (*Id.* at col. 1, ll. 48-50.) A preform has a tubular shape in which the center of the bottom portion has a gate portion forming an inflow opening through which resin flows at the time of injection molding. (*Id.* at col. 2, ll. 2-10.) Kikuchi asserts a problem with the injection molding process in that turbulence is generated from resin flow at the gate portion or around its vicinity. (*Id.* at col. 2, ll. 11-15.) This turbulence at the gate portion causes a whitening of the preform, which upon biaxial stretch blow molding coupled with the general cooling inefficiency when forming the container, results in poor appearance characteristics such as whitening of the gate in the container. (*Id.* at col. 2, ll. 15-34.)

Accordingly, Kikuchi describes a compression molding process for a preform. (*Kikuchi* at abstract.) Kikuchi asserts that its compression molding process does not generate residual strains at the center of the bottom portion of the preform. (*Id.* at col. 5, ll. 38-44.) The subsequent stretch blow molding process results in "no possibility of the occurrence of the crazing and the whitening thus providing the excellent appearance characteristics." (*Id.* at col. 5, ll. 53-60.) Kikuchi's compression molding process involves continuously supplying resin from an extruder e.g., for multi-layered compression molding, wherein resin A from a main extruder and resin B from a subextruder are merged to extrude the composite molten resin from a nozzle. (*Id.* at col. 7, l. 65 to col. 8, l. 6.) The extruded molten resin is cut into a given size to form a composite molten resin lump that is then transported to a female mold of a compression molding device, in which the resin lump is subjected to compression molding with a male mold. (*Id.* at col. 8, ll. 6-18.)

Applicants respectfully submit that the references do not provide the requisite suggestion or motivation to modify Ekart's process to include Kikuchi's compression molding. Ekart teaches that the formed polyester polymer is "flowed" into the molding machine "without solidifying" the polymer. Ekart provides specific residence times of the polymer in the equipment used to transport the formed polymer to the molding machines to ensure that the polymer does not cool and can flow to the molding machines. In contrast, Kikuchi criticizes processes such as injection molding that involve polymer flow as such flow can cause turbulence and ultimately whitening of the preform and container. Kikuchi eliminates polymer flow by cutting the polymer into discrete lumps and transferring the lumps to the compression molding machine.

One of ordinary skill in the art would have recognized that Ekart and Kikuchi describe mutually exclusive processes; Ekart requires polymer flow without solidifying prior to entry into the molding machine, whereas Kikuchi seeks to prevent this flow and instead transport discrete lumps of polymer to the compression molding machine. The term "lump" implies a more semi-solid consistency, which one skilled in the art would recognize as a typical consistency for compression molding processes since the "lump" is necessarily compressed by the male and female molds. Thus, some cooling and solidifying would necessarily have occurred in Kikuchi's method to form the lump, which is in direct contradiction to Ekart's requirement of not solidifying the polymer. Moreover, one skilled in the art would have also recognized that compression molding was a known process at the time of Ekart's invention yet Ekart failed to specify compression molding machines as a potential type of molding process. Instead, Ekart lists processes, e.g., injection molding that require flowable polymers to force the polymer into the injection mold through a gate portion (as confirmed by Kikuchi). Thus, when the references are read as a whole in light of the knowledge of one of ordinary skill in the art of injection and compression molding processes, it would not have been obvious to modify the process of Ekart with the compression molding of Kikuchi.

Accordingly, Applicants respectfully submit that a *prima facie* case of obviousness has not been established in view of Ekart and Kikuchi and request withdrawal of these rejections.

RECONSIDERATION

It is believed that all claims of the present application are now in condition for allowance.

Reconsideration of this application is respectfully requested. If the Examiner believes that a teleconference would expedite prosecution of the present application the Examiner is invited to call the Applicants' undersigned attorney at the Examiner's earliest convenience.

Any amendments or cancellation or submissions with respect to the claims herein is made without prejudice and is not an admission that said canceled or amended or otherwise affected subject matter is not patentable. Applicants reserve the right to pursue canceled or amended subject matter in one or more continuation, divisional or continuation-in-part applications.

To the extent that Applicants have not addressed one or more assertions of the Examiner because the foregoing response is sufficient, this is not an admission by Applicants as to the accuracy of such assertions.

Please grant any extensions of time required to enter this response and charge any fees in addition to fees submitted herewith that may be required to enter/allow this response and any accompanying papers to our deposit account 02-3038 and credit any overpayments thereto.

Respectfully submitted,

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